

JOINT SOURCE CONTROL STRATEGY

LWG COMMENTS

The Lower Willamette Group (LWG) reviewed the Interim Final version of the Portland Harbor Joint Source Control Strategy (JSCS) dated September 2005 that was prepared by the Oregon Department of Environmental Quality (DEQ) and the U.S. Environmental Protection Agency (EPA). The LWG appreciates DEQ and EPA's commitment to obtaining timely information on sources to inform the Remedial Investigation and Feasibility Study (RI/FS) and Record of Decision (ROD) for the Portland Harbor Superfund Site. This letter conveys the LWG's comments on the JSCS.¹ We have prepared specific comments on the document, and our comments fall into seven general categories. Therefore, this letter has two parts: our seven general comments, followed by specific comments on each of the sections and appendices of the JSCS.

GENERAL COMMENTS

1) Timeline and Resources for Implementation Are Unclear

The JSCS states that the overarching goal is to identify, evaluate, and control sources of contamination that may impact the Willamette River, in a manner consistent with the objectives and schedule for the Portland Harbor Remedial Investigation/Feasibility Study (RI/FS). This

¹ These comments should not be construed as representing the view of the City of Portland, which is a member of the LWG. The City of Portland is engaged in a substantial amount of direct-source control work with DEQ under a formal intergovernmental agreement and will discuss the JSCS with DEQ, EPA, and partners in that context.

includes sources emanating from stormwater discharges, groundwater, shoreline erosion and overwater activity (which does not appear to be currently directly addressed by the JSCS). However, given the extremely conservative nature of the screening process, there will be few upland sites within the Portland Harbor that would be considered “low priority” for every media, and most will fall into a weight-of-evidence evaluation to determine whether source control is needed. The JSCS does not clearly outline how the timeline stated in the overarching goal will be met or where DEQ will obtain the resources to complete such a commitment. Although the LWG agrees that it is not necessary for the weight-of-evidence evaluation process to be spelled out in the JSCS, it does think it is important for DEQ to quickly formulate a plan for how those evaluations will be carried out. It is critical for the success of the Portland Harbor cleanup that high- and medium-priority sites be identified and the weight-of-evidence process be completed at these identified sites by the time EPA issues the Portland Harbor ROD.

2) Prioritization Method Is Not Sufficient

The method described in the JSCS to prioritize sites for source control relies exclusively on a concentration-based screening against Screening Level Values (SLVs). A weight-of-evidence approach should be used to prioritize all sites rather than waiting until after site prioritization and only applying the weight-of-evidence approach to medium- and low-priority sites. While exceedance of SLVs may require further evaluation, there are additional important considerations for site prioritization, such as the location, extent, magnitude (from a perspective of both concentration and mass loading), and duration of SLV exceedances; whether a complete transport pathway to the river exists or likely exists; fate and transport considerations; and the magnitude of any anticipated impacts on the in-water environment. Furthermore, definition of what constitutes a “significant” exceedance, which is used to determine high-priority sites, is not

specifically defined in the JSCS. A weight-of-evidence approach intended to understand the real importance of the sites relative to the actual risks to human health and the environment will ultimately be necessary for the prioritization of sites for source control action.

3) A “No Priority” Option Is Needed

The JSCS includes categories for high-, medium-, and low-priority sites, but does not include an option for those sites where no further action is needed. The JSCS needs to include an option to exit the source control process for sites that do not initially screen in or for sites where source control efforts are underway or complete. One of the underlying principles of the JSCS is that “uncontrolled upland sources of contamination in the Portland Harbor Superfund Site may be considered for CERCLA cleanup in an EPA Portland Harbor Record of Decision.” It is only fair that EPA and DEQ inform parties performing source control under the JSCS as to whether their actions are or are not sufficient to avoid inclusion in the NPL site at the time of the ROD.

4) SLVs Are Not ARARs and Should Not Be Represented as ARARs in the JSCS

DEQ, in previous public meetings, has stated that the proposed SLVs will be used solely for the purpose of screening upland sites in or out of the process (e.g., to assist in establishing the sites’ priority rankings). The JSCS, as currently written, does not clearly state that this is the intent of the SLVs, and in places (identified in our specific comments below) appears to confuse SLVs with applicable or relevant and appropriate requirements (ARARs). It is recommended that the JSCS more clearly establish that the SLVs will be used as a screening tool only, after which, if a site is screened as a medium- or high-priority site, a weight-of-evidence approach will be used to assess whether source control is warranted based on a potential unacceptable risk to human health and the environment.

5) Drinking Water Criteria Should Not Be ARARs for the Lower Willamette River

The JSCS notes that EPA has identified Safe Drinking Water Act Maximum Contaminant Levels (MCLs) as potentially applicable or relevant and appropriate requirements for the Portland Harbor Superfund Site and may identify National Recommended Water Quality Criteria (NRWQC) or Ambient Water Quality Criteria (AWQC) for combined consumption of both water and organisms as ARARs as well. On this basis, the JSCS identifies MCLs and Region 9 tap water Preliminary Remediation Goals (PRGs) as SLVs. MCLs and other drinking water criteria are not legally applicable, because the Willamette River through Portland Harbor is not used as a drinking water source, and such criteria are not potentially relevant or appropriate, because untreated drinking water supply is not a designated beneficial use for the Lower Willamette River.

OAR 340-041-0340, Table 340A, includes “public domestic water supply” and “private domestic water supply” among designated beneficial uses of the main stem Willamette River from the mouth to Willamette Falls. Both domestic water supply uses are qualified, however, by a footnote that reads, “with adequate pretreatment and natural quality that meets drinking water standards.” Oregon rules require water suppliers to take “all reasonable precautions” to ensure that water delivered to water users does not exceed maximum contaminant levels.

OAR 333-061-0025. To obtain a variance from the MCLs, a water supplier must first demonstrate that “best available treatment techniques which are generally available are unable to treat the water in question so that it meets maximum contaminant levels.”

OAR 333-061-0045(1)(c). “With adequate pretreatment,” then, logically means compliance with OAR 333-061-0045’s requirement to employ best available technologies. In-stream water quality in the Lower Willamette River would fail to support the designated “domestic water supply”

beneficial uses only if MCLs could not be achieved with use of best available technologies, such as those employed by the City of Wilsonville.

Oregon has not previously interpreted its “domestic water supply” beneficial use designations to require a surface water body to meet MCLs prior to treatment. The LWG is unaware of any NPDES permits or TMDLs issued for receiving streams carrying this beneficial use designation that are based upon attaining MCLs. The LWG is unaware of any DEQ remedial action decisions based upon the attainment of MCLs in adjacent surface waters with this beneficial use designation.

Because drinking water criteria are not well-suited to the designated beneficial uses of the Lower Willamette River, and because the State of Oregon has not consistently applied drinking water criteria in similar circumstances, the LWG believes that EPA will ultimately conclude that drinking water criteria are not ARARs for the Portland Harbor Superfund Site. *See* 40 C.F.R. §§ 300.400(g)(2), 300.400(f)(ii)(C)(5).

EPA and DEQ have agreed, in both the LWG’s Portland Harbor Programmatic Work Plan and the McCormick & Baxter Record of Decision (ROD), that the Willamette River through Portland Harbor is not and will not be used as a public or private domestic water supply source. Therefore, SLVs based upon drinking water criteria are not related to risk at the site. Because they are not ARARs, and because they are not risk-based, drinking water criteria are not useful screening values.

6) Clear, Consistent Weight-of-Evidence Process Needs to Be Defined

As stated above, the use of very conservative SLVs will by default cause many sites to be

ranked as medium priority, requiring a weight-of-evidence approach to determine whether the site presents an unacceptable risk to the river. As also stated above, we recommend that a weight-of-evidence approach be used to prioritize all sites. Therefore, the weight-of-evidence process will play a critical part in the overall source evaluation. Given the very limited timeline for completing screening, ranking, and weight-of-evidence evaluations, and the potentially large number of sites requiring a weight-of-evidence approach, a consistently applied, well-understood weight-of-evidence process needs to be developed and implemented by DEQ to meet the stated goals of the JSCS.

7) Stormwater Discharge Evaluations Are a High Priority and Should Incorporate All Available Evaluation Tools and Be Consistently Applied Harborwide

Stormwater discharge evaluations are essential to completing the conceptual site model and developing risk-based PRGs for the Portland Harbor RI/FS. As such, these evaluations need to be considered high priority for the JSCS and significant data gaps for the Portland Harbor RI/FS, and they should be addressed in 2006 or early 2007. The currently proposed approach for stormwater evaluations relies on catch basin sediment sampling and stormwater sampling. Both of these can be helpful tools in identifying discharges that will likely pose an unacceptable risk to the river; however, these tools are often not adequate to definitively determine that a discharge will not pose an unacceptable risk. All available tools for assessing the contribution of stormwater to impacts on the river (including in-line sediment traps) should be included, and a consistent stormwater assessment approach utilizing these tools should be developed for sites that could be impacting the Portland Harbor Study Area.

SPECIFIC COMMENTS

The following are specific comments on the JSCS that we hope will clarify and illustrate our general comments provided above.

JOINT SOURCE CONTROL STRATEGY PRINCIPLES

We recommend adding a bullet to follow the first bullet of this section that lays out the primary goal of the JSCS as a strategy principle. The bullet would use the language stated in the first sentence of Section 6, and read: “The overarching goal of the JSCS is to identify, evaluate, and control sources of contamination that may reach the Willamette River, in a manner consistent with the objectives and schedule for the Portland Harbor RI/FS. Upland source control should be completed to the extent practicable prior to sediment cleanup in the Portland Harbor Superfund Site.”

Bullet 2: Bullet 2 suggests that the sources that will be the target of the JSCS are those that “adversely impact or have the potential to adversely impact the Willamette River.” Although this is true in a general sense, the LWG believes it better to be technically clear about what we should be trying to achieve; that is, we should be focused on sources that contribute unacceptable risk to human or ecological receptors through a pathway associated with the Willamette River.

Bullet 3: Consistent with the stated objective of the JSCS, bullet 3 should specifically recognize that timely implementation of the JSCS document prior to issuance of the ROD, including screening upland sites, evaluating upland sources to the river, and requiring implementation of source control, is DEQ’s goal. This should be incorporated into the strategy principle introduced in bullet 3, by adding an introductory sentence such as “DEQ is implementing a timeline by which, unless an upland facility site is recalcitrant, the goal of

screening, identifying, and evaluating sites needing source control will be complete by the time EPA has issued the ROD.”

Bullet 3 states, “Uncontrolled upland sources of contamination in the Portland Harbor Superfund Site may be considered for CERCLA cleanup in an EPA Portland Harbor Record of Decision (ROD).” This statement should be clarified to define the conditions under which uncontrolled sources may be addressed in a CERCLA context. It should be clarified that evaluation of uncontrolled upland sources is not within the sphere of the LWG’s responsibilities as defined in the Administrative Order on Consent (AOC) and Statement of Work (SOW) for the RI/FS, nor has the LWG undertaken any responsibility for the design of any remedies, including those for such sources.

Bullet 6: The LWG suggests revising the first sentence under bullet 6 as follows: “Source Control Screening Level Values (SLVs) include medium-specific and chemical-specific guidelines that can be used in screening-level assessments for human health and the environment at a representative sampling point. In this context, the meaning of screening level assessment is consistent with the meaning and use described in EPA (1997) and DEQ (2001) guidance.”

Bullet 7: The LWG suggests replacing the second and third sentences with the following: “Exceedance of an SLV does not necessarily indicate the upland source of contamination poses an unacceptable risk to human or ecological receptors, but does require further consideration of the need for source control using a weight-of-evidence evaluation. Screening results and other lines of evidence developed in source control evaluations will be used to prioritize sites as high, medium, or low priority.” The LWG’s rationale for this suggested change is that concentration-based screening against SLVs is insufficient, in itself, to prioritize sites for source control, or to

order cleanup consistent with Oregon rules. Additional important considerations for site prioritization include, but are not limited to:

- The location, extent, magnitude, and duration of SLV exceedances.
- An evaluation to determine whether a complete transport pathway to sediments, transition-zone water, and/or surface water in the river exists or likely exists.
- Consideration of the fate and transport characteristics of the chemicals that exceed SLVs in their respective media.
- The magnitude of any anticipated impacts on the in-water environment (e.g., mass loading, spatial extent, proximity to relevant receptors, etc.).

Bullet 8: The LWG disagrees that it is appropriate to assume that aggressive source controls are necessary based only on exceedances of very conservative SLVs at the point of discharge. This approach ignores the actual risks to human health and the environment, both in terms of concentrations in the river and the relative importance of those inputs in terms of mass of chemicals released. Thus a site that discharges high chemical concentrations in a very small amount of stormwater that does not pose an unacceptable risk to in-water receptors would get the same high-priority status and aggressive source controls as another site that discharges very large quantities and concentrations of chemicals to the river and therefore poses much greater risks. Such an approach does not focus effort where it is most needed and could most benefit the river. A weight-of-evidence approach intended to understand the real importance of the high-priority sites would be more useful in identification of sites requiring more immediate source control evaluation.

Bullets 8 and 9: These bullets imply that the representative sampling point for a site

prioritization decision is “at the point of discharge to the river.” The LWG believes it is important to recognize in the JSCS that the SLVs are pathway-specific and that some SLVs are not relevant at the point of discharge. Many of the SLVs are also based on promulgated standards that are applicable only in specified media (e.g., AWQC for fish consumption are not applicable to stormwater, groundwater, and transition-zone water). Representative-sampling-points for site prioritization and for any ensuing source control should be defined appropriately for each pathway. Representative sampling point considerations specific to individual pathways are described in subsequent comments.

Bullet 12: Because time is so tight for obtaining any data to inform the RI/FS and ROD process, a schedule is needed now as a part of the JSCS, so that we and others can understand how goals stated in the cover letter are expected to be accomplished by DEQ and EPA.

OBJECTIVES (SECTION 1)

Page 1-1, item 2)

It is not appropriate to apply SLVs to define target cleanup goals for source control. Many of the SLVs are based on highly conservative risk-based screening values; others are promulgated standards that are applicable only in specific media (e.g., the surface water column within the river). DEQ has authority to require source control actions when the source is contributing to unacceptable risk, and the process within the JSCS should be focused on developing the information to determine whether such unacceptable risk exists and then, if so, taking appropriate steps to reduce that risk. The LWG suggests restating subheading 2) as follows: “Provide screening level values (SLVs) or standards that will be used to screen upland sources of contamination to identify those that require further evaluation and prioritization in the

source control program.”

Page 1-1, item 5)

As indicated by item 5), the document is supposed to provide a schedule, but Section 6 says only that a detailed schedule will be presented later. Given the JSCS’s goal of identifying, evaluating, and controlling sources of contamination that may impact the Willamette River, in a manner consistent with the objectives and schedule for the Portland Harbor RI/FS, a detailed schedule indicating how DEQ and EPA expect to meet this timing goal is needed so the LWG can integrate it into the RI/FS.

Page 1-1, item 6)

This item refers to milestone reports discussed more in Section 7. It is unclear from Section 7 how often these milestone reports will be produced. Again, it would be good to have this clearly laid out and integrated into an overall detailed schedule so that the LWG can prepare for integration of information into the RI/FS process.

BACKGROUND (SECTION 2)

2.3 Regulatory Framework

Page 2-1, paragraph 3

This paragraph implies (as does Section 4.6) that source control evaluation and design must complete a full Engineering Evaluation/Cost Analysis (EE/CA) consistent with EPA’s *Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA* (1993).

Section 2.4 states that “DEQ is using its state environmental cleanup laws to implement and require needed source control measures.” Oregon’s environmental cleanup rules, unlike the National Contingency Plan, do not require an EE/CA; rather, Oregon’s rules allow a removal

decision to be based upon a preliminary assessment or “other information.” OAR 340-122-0070. Typically, removal decisions in Oregon are made through a focused feasibility study or simply by proceeding with the design and implementation of something obvious. In some cases, an EE/CA-level study may be very useful in selecting an appropriate removal action for source control. In others—for example, excavation of a pocket of contaminated soil or bank stabilization—a requirement to perform a full EE/CA may significantly increase the cost of and delay the removal without adding environmental benefit. DEQ should take advantage of the flexibility Oregon rules allow in the selection of a removal action.

2.4 Roles and Responsibilities

Page 2-2, paragraph 1, last sentence

See comment on bullet 3 of the JSCS Principles, above.

Page 2-3, first full paragraph

Not all LWG members are AOC signatories. This should read: “The EPA has entered into an Administrative Order on Consent with a group of responsible parties **who are members of** the Lower Willamette Group (LWG).”

Page 2-3, footnote 4

Same. “. . . the following companies **have signed the AOC:**”

Figure 2-1

This figure identifies 23 sites as “high priority remedial investigation” and 14 sites as “high priority expanded preliminary assessment.” The meaning of “high priority” in this context is different than the definition of high-priority used elsewhere in the JSCS. The LWG

recommends that different terminology be used. The figure should also indicate those sites where source control is already underway.

SCREENING LEVEL VALUES (SECTION 3)

SLVs that are overly conservative will have little utility in accurately prioritizing sites and informing source control determinations, because such SLVs will not effectively discern those sites that have the greatest potential for releases that will result in unacceptable risk to in-water receptors.

The Portland Harbor RI/FS will develop a list of chemicals of concern (COCs) that will be evaluated for recontamination potential because they are expected to be human health or ecological risk drivers. These COCs should be taken into consideration when developing source control plans. It is necessary to discern between chemicals of interest (COIs) and COCs. As stated, a COI could be any chemical in an environmental medium, regardless of background or toxicological properties (i.e., could be at “safe” levels). It is recommended that the source control efforts be focused on those chemicals that are likely to be of concern to the environment (i.e., anticipated COCs, not COIs).

The JSCS acknowledges that some of the SLVs are below naturally occurring background levels, but does not provide for use of background as a screening level. Cleanup levels under CERCLA generally are not set at concentrations less than background, both naturally occurring and anthropogenic (EPA 2001). Therefore, in cases when the SLVs are lower than background levels, background (both naturally occurring and anthropogenic) should be used as the screening criteria.

Many of the SLVs are below analytical method detection limits. The JSCS does not address how to evaluate chemicals when detection limits are higher than SLVs. The LWG believes that SLVs should generally be evaluated based on commercially obtainable detection limits. If a high-volume, low-concentration source is suspected, then cumulative sampling techniques (e.g., sediment traps) could be implemented. Where this occurs for bioaccumulative compounds, data that more accurately reflect exposure point concentrations for receptors of concern should be assessed, either empirically or by more sophisticated methods of modeling bioaccumulation processes, which include bioaccessibility, bioavailability, and spatial considerations. DEQ may not be responsible for or require completing this level of analysis, but the responding parties should be offered the opportunity to conduct such analysis.

Page 3-1, paragraph 1, sentence 2 and paragraph 2 generally

Exceedance of an SLV will never be sufficient to decide whether source control (which is a remedial action) is required, because exceedance of an SLV does not establish an unacceptable risk. Instead, exceedance would trigger a weight-of-evidence evaluation.

Page 3-1, paragraph 2, sentences 3 and 4

The LWG suggests revising these sentences as follows: “Exceedance of an SLV does not necessarily indicate that the upland source of contamination poses an unacceptable risk to human or ecological receptors, but does require the further consideration of source control efforts using a weight-of-evidence evaluation. This context is consistent with the meaning and use of screening-level assessment that is described in EPA (1997) and DEQ (2001) guidance. Decisions to implement source control, prior to the EPA Portland Harbor ROD(s), will be prioritized and evaluated on a case-by-case basis, as described in Sections 4.0 and 5.0.” As discussed previously, the LWG’s rationale for this suggested change is that concentration-based screening

against SLVs is insufficient, in itself, to prioritize sites for source control or to determine that source control is required.

Page 3-1, Step 1

Use of actual site-specific data provides the best information about bioaccumulation potential. Where data are available, the bioaccumulation potential should be determined based on those chemicals detected in Round 1 fish tissue rather than on theoretical calculations.

Page 3-2, Step 2

The human health fish consumption NRWQC and AWQC are intended to be applied to an entire water body over a lifetime of human exposure (70 years). The bioaccumulation factors used in deriving the NRWQC and AWQC are also based on the long-term bioaccumulation potential of a chemical. As such, the NRWQC and AWQC are only relevant for long-term average conditions of a water body. Therefore, use of these values to screen individual sources to a water body is not appropriate.

The text, and particularly Table 3-1, imply that values that result from the application of the 175 grams per day (g/day) fish consumption rate are NRWQC or AWQC values or are somehow similar, which they are not. These derived values are not promulgated standards and therefore cannot be ARARs.

The NRWQC and AWQC values are derived using a conservative method that relates surface water concentrations to tissue concentrations without accounting for contributions from sediment, which can be significant for some chemicals. Both toxicity and exposure parameters used in deriving the NRWQC and AWQC are also based on conservative assumptions. As a result, the NRWQC and AWQC already reflect highly conservative SLVs. In addition, the

conservative methodology and numerous assumptions used to derive the NRWQC and AWQC do not reflect site-specific conditions. Simply changing one input (i.e., the fish consumption rate) to the derivation will not result in a site-specific value.

Furthermore, the 175 g/day fish consumption rate was developed specifically for a Native American fish consumption scenario. Approximately 60 percent of the diet for this scenario is from nonresident fish species, which spend only a fraction of their life within Portland Harbor, and the smallest exposure area over which the consumption rate will be evaluated is one river mile. Therefore, it is not appropriate to use this consumption rate to modify NRWQC or AWQC for screening of individual sources.

Page 3-3, Step 3

As discussed above in General Comment 5, the LWG disagrees that drinking water criteria are potential ARARs for the Portland Harbor Superfund Site. Further, Region 9 PRGs are not standards, requirements, criteria, or limitations under a federal environmental law; rather, they are unpromulgated guidance values that would not be ARARs, even if MCLs were. *See* 42 U.S.C. § 9621(d)(2)(A)(i). Because the Region 9 PRGs are for residential tap water use, which is not an exposure scenario in the Lower Willamette River at Portland Harbor, they serve no function as SLVs.

Page 3-3, Step 4

These paragraphs suggest that nonpromulgated, literature-based SLVs could be ARARs under the CERCLA process, which is not correct.

Page 3-4, Step 5.

Although the LWG agrees that catch basin sediment and upland soil concentrations can

be compared to Probable Effect Concentrations (PECs) to identify potential COIs, it disagrees that any source control decisions should be based on such a comparison. Clearly, the concentrations of chemicals that settle to sediments at the point of discharge could be much lower than concentrations found in catch basin sediments or bank soils. The LWG agrees it is difficult to arrive at clear screening criteria for such matrices. The proposed approach would appear workable if the screening process does not automatically assume that any substantial exceedance of these criteria requires immediate “aggressive” source control. A better approach for sites that substantially exceed these SLVs would be further study of concentrations and/or mass of chemical load at or near the point of discharge, to understand actual sources to the river.

It is recommended that the list of analytes for catch basin sampling be developed using a conceptual site model and knowledge of known or suspected sources, rather than systematically sampling for the complete suite of analytes.

Table 3-1

As described above, the SLVs presented in Table 3-1 represent extremely conservative values. Use of these SLVs for comparison purposes provides a conservative initial screening-level evaluation, but does not indicate the potential for actual risks to human health and the environment.

Use of the log Kow value to determine bioaccumulation potential is a conservative approach. When data are available, the bioaccumulation potential should be determined based on those chemicals actually detected in Round 1 fish tissue. Furthermore, it is important to recognize that detection of chemicals in Round 1 fish tissue does not indicate an unacceptable risk to human health or the environment.

Table 3-1 should only include chemicals that are likely to pose unacceptable risks to human health or the environment, in order to focus source control activities. These chemicals will be identified in the upcoming Round 2 Comprehensive Report. At a minimum, the weight-of-evidence approach should consider whether SLV exceedances are for those chemicals that are likely to pose unacceptable risks to human health or the environment.

DECISION PROCESS (SECTION 4)

4.1 Contaminant Transport Pathways

Stormwater discharges are a significant data gap for the Portland Harbor RI/FS that should be addressed under the JSCS. To develop effective risk-based PRGs for bioaccumulative compounds, data are needed to evaluate the contribution of stormwater discharges to tissue body burden. To develop PRGs within the Portland Harbor project schedule, the stormwater discharge data are needed in 2006 or early 2007. As a result, the stormwater transport pathway and associated data collection should be a high priority for DEQ in the context of the JSCS. On a more localized basis, it may be important to have evaluated sources from overwater activities and shoreline erosion, both dependent upon DEQ gathering that information through the JSCS process.

4.3 Upland Source Control Screening

Text in the first paragraph of Section 4.3 seems to characterize the best use of the screening phase. That is, the initial assessment is, in part, to “[d]etermine if site characterization is sufficient to support informed source control decisions.” The LWG believes that informed source control decisions require a level of information consistent with that required to implement the process specified in the Oregon cleanup rules. This does not mean that a large quantity of

information will always be needed, but rather that high-quality information on relevant aspects of the site is necessary to make this decision. The existing process for identifying high-priority sites does not seem to require this level of information.

Page 4-2

The LWG suggests revising the second bullet as follows:

- “Identify sites that require further evaluation and prioritization in the source control program.”

As discussed in bullet 7 of the Joint Source Control Principles, the LWG’s rationale for this suggested change is that concentration-based screening against SLVs is insufficient, in itself, to prioritize sites for source control or to determine that source control is required. This change is also consistent with the logic and process described in Section 4.4.

4.4 Source Control Prioritization

Page 4-3, paragraph 1, and throughout Section 4.4.1

This document suggests that DEQ’s subjective determination that a site is “high priority” due to “significant” (undefined) exceedance of an SLV is sufficient to require implementation of source control measures. Because such measures are remedial actions, which DEQ may require only if the site is posing unacceptable risk, the LWG believes the third sentence should read: “High-priority sites are expected to move forward with **an aggressive weight-of-evidence investigation followed by** source control measures” Discussions of this concept in Section 4.4.1 should be similarly revised.

Page 4-3, bullets in Section 4.4

The LWG suggests adding “fate and transport behavior of the chemicals that exceed SLVs” to the list of bullets.

Page 4-3, Section 4.4.1, paragraph 1

Same comment as for page 4-3, paragraph 1. Also, any evaluation of “water at the end of a discharge pipe” will need to consider the permits under which that water is discharged.

Page 4-5, Section 4.4.2, first paragraph after bullets

It is unclear why DEQ and EPA cite dispute resolution in this section describing the process for medium-priority sites. It seems that this category of sites will be subject to the greatest amount of uncertainty in interpretation, and is the most vulnerable to inconsistent application of source control decisions.

Page 4-5, Section 4.4.3

Given the extremely conservative nature of the proposed SLVs, the LWG expects that very few sites will be low priority for all media based on being “near or below SLVs.” However, sites could and should be considered low priority after consideration of the further factors described in the LWG’s comment on bullet 7 of the JSCS Principles, or should be considered a “no-priority” site, as recommended in the LWG’s General Comment 3.

4.5 Tools to Manage Sources

Page 4-6, last bullet

The text needs to acknowledge that management of stormwater source control will need to proceed in the context of, or in conjunction with, existing Clean Water Act permit authority.

SCREENING PROCESS (SECTION 5)

Page 5-1, paragraph 3

The LWG is concerned that the definition of a high-priority site includes the consideration “that one or more media significantly exceed applicable SLVs at the point of discharge to the river.” The term “significant exceedance” is not defined anywhere in the JSCS, and it is unclear how DEQ will interpret and apply this standard and how other factors—including, but not limited to, transport pathway evaluations, mass loading estimates, and consideration of in-water receptors and risk—will influence the identification of high-priority sites and ensuing source control requirements. The LWG members are concerned that this vague language will result in inconsistent, arbitrary, and unfair regulatory decision making in the context of implementing the JSCS. It may be possible to develop functional guidelines or definitions that will help maintain consistency in implementation of the ranking scheme. For example, high-priority sites could be defined as those with confirmed or imminent discharges at concentrations that will result in acute toxicity (i.e., exceed acute water quality criteria or exceed AETs for sediments). For PBTs, the high-priority criteria could be based on a combination of potential mass flux and concentration that exceed the cleanup criteria established for existing sites.

To be effective, the screening process could identify high-priority sites as those for which there is little doubt that environmental cleanup would be required to prevent an imminent and substantial threat to the environment, or to allow in-water cleanup to proceed effectively. The scope of required source control actions should focus on the most important pathways and chemicals. For complicated sites, a rush to define all remedies based on limited data, prior to identification of in-water risk drivers, could be counterproductive.

As currently described, the screening process could be implemented in a way that is consistent with the above goals. However, the current description does not prohibit defining high-priority sites at much lower levels of contamination that may not rise to the level of imminent threat.

This paragraph also defines groundwater measured at the shoreline as “the point of discharge to the river.” This is a false statement. The point of groundwater discharge is where groundwater passes through the sediment-water interface and should be defined as such in the JSCS. Please refer to comments on Section 3 regarding appropriate points of compliance for SLVs.

5.1 Soil Screening

For bioaccumulative compounds in soils and for all media, evaluation of biological tissue data should be allowed, provided that data suitable for assessing impacts of the specific risk are available or can be obtained.

5.2 Groundwater Screening

Page 5-5, paragraph 1

The LWG suggests revising the second sentence of this paragraph as follows:
“Exceedance of SLVs in groundwater will trigger a weight-of-evidence determination to evaluate the likelihood of adverse effects from migration of groundwater to sediment or surface water, to support site prioritization, and ultimately to determine if groundwater source control measures are required.” As discussed previously, screening against SLVs is insufficient in itself for site prioritization and ensuing source control determinations. Screening should be used to determine if further evaluation and site prioritization are required.

The LWG suggests replacing the bullets with Step 1, Step 2, and Step 3. The LWG suggests the following revisions to the first two bullets (Steps 1 and 2):

Step 1: Screen nearshore groundwater concentrations against ecological and human health SLVs presented in Table 3-1. Screening should be conducted at each nearshore groundwater monitoring well and groundwater data point. Potential dilution should not be included in screening at this step. As the site's hydrogeologic conceptual model is developed and revised, appropriate groundwater data from within the plume and as close to the river as possible should be used to assess potential impacts to the river. The results of the SLV screening will be used to determine the need for additional source control evaluation and to support site prioritization.

Step 2: If a groundwater plume has not reached the river, install monitoring wells at the leading edge of the plume (i.e., at an appropriate distance between the source and the river) to form an initial compliance boundary. These wells should be used to monitor plume stability and to allow the detection of contaminants in adequate time to initiate source control measures, if necessary. The initial compliance boundary will define the location at which exceedances of SLVs may trigger further evaluation of the potential for a complete groundwater transport pathway to the river under the Source Control program.

The LWG notes that considerations of dilution inform the development of SLVs for sediment (see Section 3, Step 5), but dilution effects are expressly excluded from the groundwater screening approach. The rationale for this distinction between media is unclear, especially when it is recognized that dilution of groundwater discharging to a large river is a

significant effect. Consideration should be given in the JSCS groundwater screening approach to generic dilution-attenuation factors for groundwater, site-specific considerations relating to chemical fate and transport mechanisms, predictive modeling, and the extent and magnitude of any SLV exceedances in nearshore upland groundwater. Without these considerations, the potential for groundwater transport to result in releases of chemicals to the river that pose unacceptable risk or exceed applicable promulgated standards cannot be meaningfully determined.

Page 5-6, equation for C_{sed}

The equation for C_{sed} is incorrect as written. Specifically, the bracketed term (K_{oc} or K_d) should be replaced with ($K_{oc} \times f_{oc}$ or K_d), wherein f_{oc} is the organic carbon fraction of the sediments. It should also be noted that an assumption underlying the use of the equation is that the water and sediments are in equilibrium. In flowing systems, this approach may overestimate the accumulation of chemicals in sediments. Further, it should be acknowledged that the groundwater concentration term, C_{gw} , is the groundwater concentration at the point of discharge. Upland groundwater concentrations may need to be adjusted based on a fate and transport analysis of the site-specific plume, transport pathway, and COIs. The purpose of the second equation is unclear. This equation cannot be used to back-calculate groundwater concentrations unless it is confirmed that groundwater is the only source of a given chemical in sediments.

Page 5-7, paragraph 2

The LWG believes that the language regarding “adverse effects on beneficial water uses” in this paragraph is preferable to “significant exceedance of an SLV at the point of discharge” for defining high-priority sites. The LWG suggests that EPA and DEQ consider revising the definition of high-priority sites accordingly throughout the JSCS, with respect to potential

groundwater sources.

5.3 Direct Discharge Screening

In its present form, the JSCS relies on a combination of catch basin sediment and whole stormwater sampling to screen direct stormwater discharges to the river. Although the LWG believes that these approaches have value in many cases and can form, at least in part, a basis for action related to the subject discharges, we believe that the intrinsic limitations of the suggested sampling approaches may result in a failure to observe important sources of constituents of interest to the river.

It is well known that some constituents of interest may be present in stormwater at very low concentrations. These concentrations can be so low as to be undetectable in whole stormwater, even using the best available chemical analysis technology. Because many of the constituents of interest are strongly bound to particles that travel with the stormwater, it is important to sample the particles associated with the stormwater flow. Sampling of sediments in catch basins is one approach to this. However, catch basin sediments may or may not be sufficiently representative of the particles present in the stormwater flow. In particular, the sediments present in catch basins may represent only the coarsest grain-size fraction of the particles transported, they may represent the particles deposited toward the end of a runoff event, or they may represent particles that have been resident in the catch basin for very long times and thus are not associated with current drainage basin conditions.

The LWG believes that it is critical to include cumulative sampling approaches, such as in-line sediment trap sampling, as suggested methods for direct discharge screening. In-line sediment trap sampling, which has been used successfully at other large waterfront Superfund

sites in EPA Region 10 as well as at a site in the Lower Willamette River (Port of Portland Terminal 4), provides very useful information on the concentration of constituents of interest on particles associated with a particular portion of the flow emanating from a drainage basin. The methods for installation, use, retrieval, and data processing related to these devices are well understood.

Pages 5-11 and 5-12, paragraph that carries over

It is not clear what the first sentence of this paragraph means. The LWG agrees that evaluation of stormwater discharges, whether public or private, must be site-specific and source-specific. However, it is unclear under what authority DEQ would relegate its enforcement obligations to either federal or local jurisdictions.

Section 6. Upland Source Control Schedule

As discussed above, the schedule needs to be more specific, and it needs to establish how all necessary postscreening (e.g., weight-of-evidence) evaluations will be completed in order for a sitewide ROD to be issued in 2008.

APPENDIX A

Section A.1.1

This section should clarify that, for a standard or value to be an ARAR, it must be “*legally applicable* to the hazardous substance concerned” or “*relevant and appropriate* under the circumstances of the release.” 42 U.S.C. § 9621(d)(2)(A). “Applicable” means “those . . . criteria . . . that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site.” 40 C.F.R. § 300.5. EPA’s rules

also provide guidance on the process of determining whether a criterion is legally applicable:

“The lead and support agencies shall identify requirements applicable to the release or remedial action based on an objective determination of whether the requirement specifically addresses a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site.” 40 C.F.R. § 300.400(g)(1). “Relevant and appropriate” means “those . . . criteria . . . that, while not ‘applicable’ to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site.” 40 C.F.R. § 300.5. EPA’s rules also provide guidance on determining whether a criterion is relevant and appropriate:

“In evaluating relevance and appropriateness, the [following] factors shall be examined, where pertinent, to determine whether a requirement addresses problems or situations sufficiently similar to the circumstances of the release or remedial action contemplated, and whether the requirement is well-suited to the site, and therefore is both relevant and appropriate. The pertinence of each of the following factors will depend, in part, on whether a requirement addresses a chemical, location or action. The following comparisons shall be made, where pertinent, to determine relevance and appropriateness:

“(i) The purpose of the requirement and the purpose of the CERCLA action;

“(ii) The medium regulated or affected by the requirement and the medium contaminated or affected at the CERCLA site;

“(iii) The substances regulated by the requirement and the substances found at the CERCLA site;

“(iv) The actions or activities regulated by the requirement and the remedial action contemplated at the CERCLA site;

“(v) Any variances, waivers, or exemptions of the requirement and their availability for the circumstances at the CERCLA site;

“(vi) The type of place regulated and the type of place affected by the release or CERCLA action;

“(vii) The type and size of structure or facility regulated and the type and size of structure or facility affected by the release or contemplated by the CERCLA action;

“(viii) Any consideration of use or potential use of affected resources in the requirement and the use or potential use of the affected resource at the CERCLA site.” 40 C.F.R. § 300.400(g)(2).

EPA guidance explains that both the “relevant” and “appropriate” elements need to be met:

“[A] requirement may be ‘relevant,’ in that it covers situations similar to that at the site, but may not be ‘appropriate’ to apply for various reasons and, therefore, not well suited to the site. In some situations, only portions of a requirement or regulation may be judged relevant and appropriate.” *ARARs Q’s & A’s: General Policy, RCRA, CWA, SDWA, Post-ROD Information, and Contingent Waivers*, OSWER Publication 9234.2-01/FS-A (July 1991).

With respect to the application of water quality criteria, CERCLA provides specific direction on applying either federal Maximum Contaminant Level Goals (which are more stringent criteria than MCLs) or AWQC, neither of which is “legally applicable” in this case, since Oregon has its own enforceable MMLs and Table 20 water quality standards.

“(d)(2)(A) . . . [A remedial action] shall require a level or standard of control which at least attains Maximum Contaminant Level Goals established under the Safe Drinking Water Act [42 U.S.C. § 300f, et seq.,] and water quality criteria established under section 304 or 303 of the Clean Water Act [33 U.S.C. §§ 1314, 1313], where such goals or criteria are relevant and appropriate under the circumstances of the release or threatened release.

“(B)(i) In determining whether or not any water quality criteria under the Clean Water Act [33 U.S.C. § 1251, et seq.,] is relevant and appropriate under the circumstances of the release or

threatened release, the President shall consider the designated or potential use of the surface or groundwater, the environmental media affected, the purposes for which such criteria were developed, and the latest information available.” 42 U.S.C. § 9621(d)(2).

Section A.1.3

This section should acknowledge that the “hot spot” analysis under the Oregon statutory scheme and the “principal threat” analysis under the NCP are means to determine what type of remedial action is appropriate and come into play *after* it has been determined that an unacceptable risk is present that requires removal or remedial action.

Section A.2

Although the NCP EE/CA process may, in some circumstances, be an appropriate way to evaluate a potential non-time-critical removal action, it should also be possible to evaluate such an action under the process outlined in the DEQ cleanup rules.

Section A.3.4. Last sentence on page A-7.

This sentence is unclear because CSO control is focused on the control of sanitary sewage, not the stormwater component. We understand that the City is submitting clarifying language.

APPENDIX D

General Comments:

- 1) Stormwater needs to be evaluated for discharges that impact the Study Area, not just

discharges that occur within the Initial Study Area.

2) Appendix D appears to focus on discharges from City outfalls. It is recommended that a consistent harborwide approach for evaluating stormwater discharges to the river be developed and implemented.

Page D-3, paragraph 6

The LWG disagrees that sampling of catch basin sediment provides any information relative to “potential sediment concentrations in storm water discharges,” since the purpose of catch basins is to trap particulates that would otherwise discharge. Catch basin sampling can be used to identify potential site COIs.

Page D-4, Section D-2

The Conceptual Site Model (CSM) described in this section should be incorporated into the LWG Remedial Investigation CSM.

Page D-4, paragraph 3

This paragraph should acknowledge that anthropogenic background also creates a significant mechanism for transporting contaminants to the river. In addition to industrial stormwater discharges, stormwater discharging to the harbor originates from commercial, open-space, right-of-way, and residential areas.

APPENDIX E

General Comment:

The evaluation method for stormwater appears to rely solely on catch basin sediment sampling and stormwater sampling. As stated above, these approaches can have value in many

cases and can assist in forming a basis for action related to the subject discharges. However, the LWG believes that there are intrinsic limitations to the suggested sampling approaches, in terms of understanding the magnitude (from a perspective of both concentration and mass loading) of the discharges that may result in a failure to observe important sources of constituents of interest to the river. Therefore, the LWG believes that it is critical to include cumulative sampling approaches, such as in-line sediment trap sampling, as suggested methods for direct discharge screening.

The LWG considers stormwater discharges a data gap for the RI/FS. To provide meaningful data for the RI/FS, DEQ needs to provide a framework for consistent data collection that focuses on those sources for which location-specific information on recontamination potential is important. The timely implementation of the framework is essential to inform the Feasibility Study, and the more information available by the Feasibility Study, the more specificity will be possible in the ROD.

Page 1-2, Section 1.2, paragraph 2

This paragraph should also discuss the City's discharge permits for both its stormwater and its CSO discharges.

Page 2-3, Section 2.3

This section focuses entirely on industrial stormwater controls. It should also describe what controls are being instituted for public and private outfalls, permitted or not, including those discussed in Section 1.2.

Section 3-6

As stated above, a consistent evaluation approach that focuses on sources for which

recontamination information is most important and that is implemented in a timely manner is necessary to address the data needs for the RI/FS. The LWG is developing a suggested framework for stormwater data collection and would like to meet with DEQ to discuss how the framework could be implemented under the JSCS.